RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/523,981_

Source: _PCT/10_

Date Processed by STIC: _11/18/05_

ENTERED

RAW SEQUENCE LISTING   DATE: 11/18/2005
PATENT APPLICATION: US/10/523,981   TIME: 10:46:06

Input Set : **A:\P707470PCT ST25.txt**
Output Set: **N:\CRF4\11182005\J523981.raw**

```
  3 <110> APPLICANT: The Nottingham Trent University
  5 <120> TITLE OF INVENTION: Gastric and Colon Cancer Associated Antigens
  7 <130> FILE REFERENCE: P707470PCT
->  9 <140> CURRENT APPLICATION NUMBER: US/10/523,981
-> 10 <141> CURRENT FILING DATE: 2005-02-08
 12 <150> PRIOR APPLICATION NUMBER: GB0218468.7
 13 <151> PRIOR FILING DATE: 2002-08-08
 15 <160> NUMBER OF SEQ ID NOS: 26
 17 <170> SOFTWARE: PatentIn version 3.2
 19 <210> SEQ ID NO: 1
 20 <211> LENGTH: 4340
 21 <212> TYPE: DNA
 22 <213> ORGANISM: Homo sapiens
 24 <400> SEQUENCE: 1
 25 acagccgccc gccgcccagc acaggagggt gcagccccgg ccccaagttc tgcgccatgg      60
 27 gaggctccca ctctcagacc ccgaggggcc gggaacccgc cggggagagg cacccgagac     120
 29 ccacggagac cgcgactact gaacaagtga aatttctctg ttttctgttg agtggctgta     180
 31 aggtgaagaa gcatgaaact cagtctctcg ccctggatgc atgttctcgg gatgaagggg     240
 33 cagtgatctc ccagatttca gacatttcta atagggatgg ccatgctact gatgaggaga     300
 35 aactggcatc cacgtcatgt ggtcagaaat cagctggtgc cgaggtgaaa ggtgagccag     360
 37 aggaagacct ggagtacttt gaatgttcca atgttcctgt gtctaccata aatcatgcgt     420
 39 tttcatcctc agaagcaggc atagagaagg agacgtgcca gaagatggaa gaagacgggt     480
 41 ccactgtgct tgggctgctg gagtcctctg cagagaaggc ccctgtgtcg gtgtcctgtg     540
 43 gaggtgagag ccccctggat gggatctgcc tcagcgaatc agacaagaca gccgtgctca     600
 45 ccttaataag agaagagata attactaaag agattgaagc aaatgaatgg aagaagaaat     660
 47 acgaagagac ccggcaagaa gttttggaga tgaggaaaat tgtagctgaa tatgaaaaga     720
 49 ctattgctca aatgattgaa gatgaacaaa ggacaagtat gacctctcag aagagcttcc     780
 51 agcaactgac catggagaag aacaggccc tggctgacct taactctgtg gaaaggtccc     840
 53 tttctgatct cttcaggaga tatgagaacc tgaaaggtgt tctggaaggg ttcaagaaga     900
 55 atgaagaagc cttgaagaaa tgtgctcagg attacttatc cagagttaaa caagaggagc     960
 57 agcgatacca ggccctgaaa atccacgcag aagagaaact ggacaaagcc aatgaagaga    1020
 59 ttgctcaggt tcgaacaaaa gcaaaggctg agagtgcagc tctccatgct ggactccgca    1080
 61 aagagcagat gaaggtggag tccctggaaa gggccctgca gcagaagaac caagaaattg    1140
 63 aagaactgac aaaaatctgt gatgagctga ttgcaaagct gggaaagact gactgagaca    1200
 65 ctcccctgt tagctcaaca gatctgcatt tggctgcttc tcttgtgacc acaattatct    1260
 67 tgccttatcc aggaataatt gcccctttgc agagaaaaaa aaaaacttaa aaaagcaca    1320
 69 tgcctactgc tgcctgtccc gctttgctgc caatgcaaca gccctggaag aaaccctaga    1380
 71 gggttgcata gtctagaaag gagtgtgacc tgacagtgct ggagcctcct agtttccccc    1440
 73 tatgaaggtt cccttaggct gctgagtttg ggtttgtgat ttatctttag tttgtttaa    1500
 75 agtcatcttt actttcccaa atgtgttaaa tttgtaactc ctctttgggg tcttctccac    1560
 77 cacctgtctg attttttgt gatctgttta atcttttaat tttttagtat cagtggtttt    1620
 79 atttaaggag acagtttggc ctattgttac ttccaattta taatcaagaa ggggctctgg    1680
 81 atccccttt aaattacaca cactctcaca cacatacatg tatgtttata gatgctgctg    1740
```

```
 83 ctcttttccc tgaagcatag tcaagtaaga actgctctac agaaggacat atttccttgg   1800
 85 atgtgagacc ctattttgaa atagagtcct gactcagaac accaacttaa gaatttgggg   1860
 87 gattaaagat gtgaagacca cagtcttggg ttttcatatc tggagaagac tatttgccat   1920
 89 gacgttttgt tgccctggta tttggacact cctcagcttt aatgggtgtg gcccctttag   1980
 91 ggttagtcct cagactaatg atagtgtctg ctttctgcat gaacggcaat atgggactcc   2040
 93 ctccaagcta gggtttggca agtctgccct agagtcattt actctcctct gcctccattt   2100
 95 gttaatacag aatcaacatt tagtcttcat tatctttttt tttttttttg agacagagtt   2160
 97 tcgatctatt ttaagtatgt gaagaaaatc tacttgtaaa aggctcagat cttaattaaa   2220
 99 aggtaattgt agcacattac caattataag gtgaagaaat gtttttttcc caagtgtgat   2280
101 gcattgttct tcagatgttg aaaagaaagc aaaaaatacc ttctaactta agacagaatt   2340
103 tttaacaaaa tgagcagtaa aagtcacatg aaccactcca aaaatcagtg cattttgcat   2400
105 atttttaaac aaagacagct tgttgaatac tgagaagagg agtgcaagga gaaggtctgt   2460
107 actaacaaag ccaaattcct caagctctta ctggactcag ttcagagtgg tgggccatta   2520
109 accccaacat ggaatttttc catataaatc tcaatgaatt ccctttcatt tgaataggca   2580
111 aacccaaatc catgcaagtg ttttaaagca ctgtcctgtc ttaatcttac atgctgaaag   2640
113 tcttcatggt gatatgcact atattcagta tacgtatgtt ttcctacttc tcttgtaaaa   2700
115 ctgttgcatg atccaacttc agcaatgaat tgtgcctagt ggagaacctc tatagatctt   2760
117 aaaaaatgaa ttattcttta gcagtgtatt actcacatgg gtgcaatctt tagccccagg   2820
119 gaggtcaata atgtctttta aagccagaag tcacatttta ccaatatgca tttatcataa   2880
121 ttggtgctta ggctgtatat tcaagcctgt tgtcttaaca ttttgtataa aaaagaacaa   2940
123 cagaaattat ctgtcatttg agaagtggct tgacaatcat ttgagctttg aaagcagtca   3000
125 ctgtggtgta atatgaatgc tgtcctagtg gtcatagtac caagggcacg tgtctcccct   3060
127 tggtataact gatttccttt ttagtcctct actgctaaat aagttaattt tgcattttgc   3120
129 agaaagaaac attgattgct aaatcttttt gctgctgtgt tttggtgttt tcatgtttac   3180
131 ttgtttata ttgatctgtt ttaagtatga gaggcttata gtgccctcca ttgtaaatcc    3240
133 atagtcatct ttttaagctt attgtgttta agaaagtagc tatgtgttaa acagaggtga   3300
135 tggcagccct tccctagcac actggtggaa gagacccctt aagaacctga ccccagtgaa   3360
137 tgaagctgat gcacagggag caccaaagga ccttcgttaa gtgataattg tcctggcctc   3420
139 tcagccatga ccgttatgag gaaatatccc ccattcgaac ttaacagatg cctcctctcc   3480
141 aaagagaatt aaaatcgtag cttgtacaga tcaagagaat atactgggca gaatgaagta   3540
143 tgtttgttta tttttcttta aaaataaagg attttggaac tctggagagt aagaatatag   3600
145 tatagagttt gcctcaacac atgtgagggc caaataacct gctagctagg cagtaataaa   3660
147 ctctgttaca gaagagaaaa agggccgggc acagtggctt attcctgtaa tcccaacact   3720
149 gtggaaggcc gaggcaggag gatcacttga gtccaggagt ttgaaaccta cctaggcaac   3780
151 atggtgaaac cttgtctcta ccaaaataaa aattagctgg gcatggtggc acgtgcctgt   3840
153 ggtcccagct acttgggagg ctgaggtggg agcctgggag gtcaaggctg cagtgagcca   3900
155 tgatcatgcc actgcactcc atcctgggtg acagcaagat cttgtctcaa aaaaaaaaaa   3960
157 aaaaaaaaaa aacccaggag tgaaaaagga aagtaaaagg cagctgctgg cctaaatgtt   4020
159 ggtttgggaa tattaggtga tcctgttgaa attctggatc caaagcaatt tctttagctt   4080
161 ttgactttgc caaagtgtaa atagccttta tccaccagtt ttttaagggg ggaatgcaac   4140
163 gggaggccaa ctgaacaatt ccccccgtgg ctgcccagat agtcacagtc aaggttggag   4200
165 agtctccttc cagccaggga cctacccaaa ccttttgttc tgtaaaactg ctctggaaat   4260
167 accgggaagc ccagttttct cacgtggttt ctagcttctt cggactcagc ccaatttagg   4320
169 agtgccgaag cacatgatgg                                                 4340
172 <210> SEQ ID NO: 2
173 <211> LENGTH: 2495
174 <212> TYPE: DNA
175 <213> ORGANISM: Homo sapiens
177 <400> SEQUENCE: 2
```

```
178 gggtggtgga tctgtcggtc ccgttttccc gtcgcacgtg gtggccactg ttggcttctg    60
180 aatggtttgc aaggcggata tccacgccaa ggcctttgga tcggccgtgg gtacatccgt   120
182 ctgagccgtt cctttccatc gcagagcggc ggcctccggc ggcgctctcc agtcatggac   180
184 taccggcggc ttctcatgag ccgggtggtc cccgggcaat tcgacgacgc ggactcctct   240
186 gacagtgaaa acagagactt gaagacagtc aaagagaagg atgacattct gtttgaagac   300
188 cttcaagaca atgtgaatga gaatggtgaa ggtgaaatag aagatgagga ggaggagggt   360
190 tatgatgatg atgatgatga ctgggactgg gatgaaggag ttggaaaact cgccaagggt   420
192 tatgtctgga atggaggaag caacccacag gcaaatcgac agacctccga cagcagttca   480
194 gccaaaatgt ctactccagc agacaaggtc ttacggaaat ttgagaataa aattaattta   540
196 gataagctaa atgttactga ttccgtcata aataaagtca ccgaaaagtc tagacaaaag   600
198 gaagcagata tgtatcgcat caaagataag gcagacagag caactgtaga acaggtgttg   660
200 gatcccagaa caagaatgat tttattcaag atgttgacta gaggaatcat aacagagata   720
202 aatggctgca ttagcacagg aaaagaagct aatgtatacc atgctagcac agcaaatgga   780
204 gagagcagag caatcaaaat ttataaaact tctattttgg tgttcaaaga tcgggataaa   840
206 tatgtaagtg gagaattcag atttcgtcat ggctattgta aaggaaaccc taggaaaatg   900
208 gtgaaaactt gggcagaaaa agaaatgagg aacttaatca ggctaaacac agcagagata   960
210 ccatgtccag aaccaataat gctaagaagt catgttcttg tcatgagttt catcggtaaa  1020
212 gatgacatgc ctgcaccact cttgaaaaat gtccagttat cagaatccaa ggctcgggag  1080
214 ttgtacctgc aggtcattca gtacatgaga agaatgtatc aggatgccag acttgtccat  1140
216 gcagatctca gtgaatttaa catgctgtac cacggtggag gcgtgtatat cattgacgtg  1200
218 tctcagtccg tggagcacga ccacccacat gccttggagt tcttgagaaa ggattgcgcc  1260
220 aacgtcaatg atttctttat gaggcacagt gttgctgtca tgactgtgcg ggagctcttt  1320
222 gaatttgtca cagatccatc cattacacat gagaacatgg atgcttatct ctcaaaggcc  1380
224 atggaaatag catctcaaag gaccaaggaa gaacggtcta gccaagatca tgtggatgaa  1440
226 gaggtgttta gcgagcata tattcctaga accttgaatg aagtgaaaaa ttatgagagg  1500
228 gatatggaca taattatgaa attgaaggaa gaggacatgg ccatgaatgc ccaacaagat  1560
230 aatattctat accagactgt tacaggattg aagaaagatt tgtcaggagt tcagaaggtc  1620
232 cctgcactcc tagaaaatca agtggaggaa aggacttgtt ctgattcaga agatattgga  1680
234 agctctgagt gctctgacac agactctgaa gagcagggag accatgcccg ccccaagaaa  1740
236 cacaccacgg accctgacat tgataaaaaa gaaagaaaaa agatggtcaa ggaagcccag  1800
238 agagagaaaa gaaaaaacaa aattcctaaa catgtgaaaa aaagaaagga gaagacagcc  1860
240 aagacgaaaa aaggcaaata gaatgagaac catattatgt acagtcattt tcctcagttc  1920
242 cttttctcgc ctgaactctt aagctgcatc tggaagatgg cttattggtt ttaaccagat  1980
244 tgtcatcgtg gcactgtctg tgaagacgga ttcaaatgtt ttcatgtaac tatgtaaaaa  2040
246 gctctaagct ctagagtcta gatccagtca ctgactctgt ctggtgttga cagaggattt  2100
248 atttaagcta ttatttttaat aaagaacttt gtacattttt attttttatat ttttttctct  2160
250 tacaaatatg tttttggaag catgataaat gtttaaatgt agtcaacatc tgtaactctt  2220
252 acatgagtgt ccagaggcac tcatgggaaa attggttttg ctttctttgt acacaccaga  2280
254 gacccatctg aggtcatctg attataaggc catgtttata taaagggaat ttcacccaca  2340
256 gttcagctgg ctgttgattt tcactgcaac tctgcctttg tgtgtattgg cgatcatttg  2400
258 taatgctctt acacttcgtc tttaatgttc tttttggagt taggacctct cagttcataa  2460
260 agtttttttac aattcaaaaa aaaaaaaaaa aaaaa                             2495
263 <210> SEQ ID NO: 3
264 <211> LENGTH: 2527
265 <212> TYPE: DNA
266 <213> ORGANISM: Homo sapiens
268 <400> SEQUENCE: 3
269 gggtggtgga tctgtcggtc ccgttttccc gtcgcacgtg gtggccactg ttggcttctg    60
271 aatggtttgc aaggcggata tccacgccaa ggcctttgga tcggccgtgg gtacatccgt   120
```

```
273 ctgagccgtt cctttccatc gcagagcggc ggcctccggc ggcgctctcc agtcatggac    180
275 taccggcggc ttctcatgag ccgggtggtc cccgggcaat tcgacgacgc ggactcctct    240
277 gacagtgaaa acagagactt gaagacagtc aaagagaagg atgacattct gtttgaagac    300
279 cttcaagaca atgtgaatga gaatggtgaa ggtgaaatag aagatgagga ggaggagggt    360
281 tatgatgatg atgatgatga ctgggactgg gatgaaggag ttggaaaact cgccaagggt    420
283 tatgtctgga atggaggaag caacccacag ctagtgcctt agactctgga attcccttct    480
285 aggcaaatcg acagacctcc gacagcagtt cagccaaaat gtctactcca gcagacaagg    540
287 tcttacggaa atttgagaat aaaattaatt tagataagct aaatgttact gattccgtca    600
289 taaataaagt caccgaaaag tctagacaaa aggaagcaga tatgtatcgc atcaaagata    660
291 aggcagacag agcaactgta gaacaggtgt tggatcccag aacaagaatg attttattca    720
293 agatgttgac tagaggaatc ataacagaga taaatggctg cattagcaca ggaaaagaag    780
295 ctaatgtata ccatgctagc acagcaaatg gagagagcag agcaatcaaa atttataaaa    840
297 cttctatttt ggtgttcaaa gatcgggata aatatgtaag tggagaattc agatttcgtc    900
299 atggctattg taaaggaaac cctaggaaaa tggtgaaaac ttgggcagaa aaagaaatga    960
301 ggaacttaat caggctaaac acagcagaga taccatgtcc agaaccaata atgctaagaa   1020
303 gtcatgttct tgtcatgagt ttcatcggta aagatgacat gcctgcacca ctcttgaaaa   1080
305 atgtccagtt atcagaatcc aaggctcggg agttgtacct gcaggtcatt cagtacatga   1140
307 gaagaatgta tcaggatgcc agacttgtcc atgcagatct cagtgaattt aacatgctgt   1200
309 accacggtgg aggcgtgtat atcattgacg tgtctcagtc cgtggagcac gaccacccac   1260
311 atgccttgga gttcttgaga aaggattgcg ccaacgtcaa tgatttcttt atgaggcaca   1320
313 gtgttgctgt catgactgtg cgggagctct ttgaatttgt cacagatcca tccattacac   1380
315 atgagaacat ggatgcttat ctctcaaagg ccatggaaat agcatctcaa aggaccaagg   1440
317 aagaacggtc tagccaagat catgtggatg aagaggtgtt taagcgagca tatattccta   1500
319 gaaccttgaa tgaagtgaaa aattatgaga gggatatgga cataattatg aaattgaagg   1560
321 aagaggacat ggccatgaat gcccaacaag ataatattct ataccagact gttacaggat   1620
323 tgaagaaaga tttgtcagga gttcagaagg tccctgcact cctagaaaat caagtggagg   1680
325 aaaggacttg ttctgattca gaagatattg gaagctctga gtgctctgac acagactctg   1740
327 aagagcaggg agaccatgcc cgccccaaga aacacaccac ggaccctgac attgataaaa   1800
329 aagaaagaaa aaagatggtc aaggaagccc agagagagaa aagaaaaaac aaaattccta   1860
331 aacatgtgaa aaaaagaaag gagaagacag ccaagacgaa aaaaggcaaa tagaatgaga   1920
333 accatattat gtacagtcat tttcctcagt tcctttctc gcctgaactc ttaagctgca   1980
335 tctggaagat ggcttattgg ttttaaccag attgtcatcg tggcactgtc tgtgaagacg   2040
337 gattcaaatg ttttcatgta actatgtaaa aagctctaag ctctagagtc tagatccagt   2100
339 cactgactct gtctggtgtt gacagaggat ttatttaagc tattatttta ataaagaact   2160
341 ttgtacattt ttatttttat atttttttct cttacaaata tgtttttgga agcatgataa   2220
343 atgtttaaat gtagtcaaca tctgtaactc ttacatgagt gtccagaggc actcatggga   2280
345 aaattggttt tgctttcttt gtacacacca gagacccatc tgaggtcatc tgattataag   2340
347 gccatgttta tataaaggga atttcaccca cagttcagct ggctgttgat tttcactgca   2400
349 actctgcctt tgtgtgtatt ggcgatcatt tgtaatgctc ttacacttcg tctttaatgt   2460
351 tcttttgga gttaggacct ctcagttcat aaagtttttt acaattcaaa aaaaaaaaa   2520
353 aaaaaaa                                                              2527
356 <210> SEQ ID NO: 4
357 <211> LENGTH: 561
358 <212> TYPE: PRT
359 <213> ORGANISM: Homo sapiens
361 <400> SEQUENCE: 4
363 Met Ser Arg Val Val Pro Gly Gln Phe Asp Asp Ala Asp Ser Ser Asp
364 1               5                   10                  15
367 Ser Glu Asn Arg Asp Leu Lys Thr Val Lys Glu Lys Asp Asp Ile Leu
```

```
368              20              25              30
371 Phe Glu Asp Leu Gln Asp Asn Val Asn Glu Asn Gly Glu Gly Glu Ile
372      35              40              45
375 Glu Asp Glu Glu Glu Glu Gly Tyr Asp Asp Asp Asp Asp Asp Trp Asp
376      50              55              60
379 Trp Asp Glu Gly Val Gly Lys Leu Ala Lys Gly Tyr Val Trp Asn Gly
380 65              70              75              80
383 Gly Ser Asn Pro Gln Ala Asn Arg Gln Thr Ser Asp Ser Ser Ser Ala
384              85              90              95
387 Lys Met Ser Thr Pro Ala Asp Lys Val Leu Arg Lys Phe Glu Asn Lys
388              100             105             110
391 Ile Asn Leu Asp Lys Leu Asn Val Thr Asp Ser Val Ile Asn Lys Val
392      115             120             125
395 Thr Glu Lys Ser Arg Gln Lys Glu Ala Asp Met Tyr Arg Ile Lys Asp
396      130             135             140
399 Lys Ala Asp Arg Ala Thr Val Glu Gln Val Leu Asp Pro Arg Thr Arg
400 145             150             155             160
403 Met Ile Leu Phe Lys Met Leu Thr Arg Gly Ile Ile Thr Glu Ile Asn
404              165             170             175
407 Gly Cys Ile Ser Thr Gly Lys Glu Ala Asn Val Tyr His Ala Ser Thr
408              180             185             190
411 Ala Asn Gly Glu Ser Arg Ala Ile Lys Ile Tyr Lys Thr Ser Ile Leu
412      195             200             205
415 Val Phe Lys Asp Arg Asp Lys Tyr Val Ser Gly Glu Phe Arg Phe Arg
416      210             215             220
419 His Gly Tyr Cys Lys Gly Asn Pro Arg Lys Met Val Lys Thr Trp Ala
420 225             230             235             240
423 Glu Lys Glu Met Arg Asn Leu Ile Arg Leu Asn Thr Ala Glu Ile Pro
424              245             250             255
427 Cys Pro Glu Pro Ile Met Leu Arg Ser His Val Leu Val Met Ser Phe
428              260             265             270
431 Ile Gly Lys Asp Asp Met Pro Ala Pro Leu Leu Lys Asn Val Gln Leu
432      275             280             285
435 Ser Glu Ser Lys Ala Arg Glu Leu Tyr Leu Gln Val Ile Gln Tyr Met
436      290             295             300
439 Arg Arg Met Tyr Gln Asp Ala Arg Leu Val His Ala Asp Leu Ser Glu
440 305             310             315             320
443 Phe Asn Met Leu Tyr His Gly Gly Gly Val Tyr Ile Ile Asp Val Ser
444              325             330             335
447 Gln Ser Val Glu His Asp His Pro His Ala Leu Glu Phe Leu Arg Lys
448              340             345             350
451 Asp Cys Ala Asn Val Asn Asp Phe Phe Met Arg His Ser Val Ala Val
452      355             360             365
455 Met Thr Val Arg Glu Leu Phe Glu Phe Val Thr Asp Pro Ser Ile Thr
456      370             375             380
459 His Glu Asn Met Asp Ala Tyr Leu Ser Lys Ala Met Glu Ile Ala Ser
460 385             390             395             400
463 Gln Arg Thr Lys Glu Glu Arg Ser Ser Gln Asp His Val Asp Glu Glu
464              405             410             415
```

VERIFICATION SUMMARY   DATE: 11/18/2005
PATENT APPLICATION: US/10/523,981   TIME: 10:46:07

Input Set : A:\P707470PCT ST25.txt
Output Set: N:\CRF4\11182005\J523981.raw

Ə M:270 C: Current Application Number differs, Replaced Current Application Number
10 M:271 C: Current Filing Date differs, Replaced Current Filing Date